## WHAT IS CLAIMED IS:

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3 1. A method for compiling, in one of a plurality of compilation units, a subroutine having associated with it calls to items having addresses resolved external to said one compilation unit, said method comprising the steps of: 5

copying each of said external resolution items into said one compilation unit to form respective internal resolution items; and

compiling said subroutine using said external resolution items and said respective internal resolution items, each of said items having associated with it a respective version indicium for identifying inter-compilation unit version conflicts during execution of said compiled subroutine, wherein corresponding compiled external resolution items are executed in the case of inter-compilation version conflicts.

2. The method of claim 1, wherein said version indicium comprises at least one of a timestamp, a cyclic redundancy check (CRC) and a version control identifier.

3. The method of claim 1, wherein said internal resolution items are compiled to produce in-line executable code.

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4. The method of claim 1, wherein at least one of said external resolution items comprise items resolved within a second of said plurality of compilation modules.

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5. The method of claim 4, wherein said items resolved within said second of said plurality of compilation modules comprise copies of corresponding items resolved within a third of said plurality of compilation modules.

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6. The method of claim 5, wherein said corresponding items resolved within said third of said plurality of compilation modules is executed in the case of intercompilation version conflict.

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7. The method of claim 1, wherein said external resolution items comprise Java® classes.

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8. A method of retrieving a program for execution on a computer system, the program stored in a file in the computer system and including inter-compilation module calls, the method comprising:

comparing, for each inter-compilation module call having associated with it a cloned called entity and a respective external called entity, version identifiers of said cloned and external entities;

executing said cloned called entity in the case of said version identifiers comparing favorably.

- 9. The method of claim 8 wherein said version identifiers comprise at least one of a timestamp, a cyclical redundancy check (CRC) and a version control identifier.
- 10. A computer readable medium storing a software program that, when executed by a processor, performs a method for compiling, in one of a plurality of compilation units, a subroutine having associated with it calls to items having addresses resolved external to said one compilation unit, said method comprising the steps of:

copying each of said external resolution items into said one compilation unit to form respective internal resolution items; and

compiling said subroutine using said external resolution items and said respective internal resolution items, each of said items having associated with it a respective version indicium for identifying inter-compilation unit version conflicts during execution of said compiled subroutine, wherein corresponding compiled external resolution items are executed in the case of inter-compilation version conflicts.

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> 11. The method of claim 10, wherein said version indicium comprises at least one of a timestamp, a cyclic redundancy check (CRC) and a version control identifier.

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12. The method of claim 10, wherein said internal resolution items are compiled to produce in-line executable code.

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- 13. The method of claim 10, wherein at least one of said external resolution items 1 comprise items resolved within a second of said plurality of compilation modules. 2 3 14. 4 The method of claim 13, wherein said items resolved within said second of said plurality of compilation modules comprise copies of corresponding items resolved 5 6 within a third of said plurality of compilation modules. 7 15. 8 The method of claim 14 wherein said corresponding items resolved within said 9 third of said plurality of compilation modules is executed in the case of inter-10 compilation version conflict. 11 12 13 14 15 16 17 18 19 20 16. The method of claim 10, wherein said external resolution items comprise Java® classes. A method for compiling, in one of a plurality of compilation units, a calling 17. subroutine having associated with it called subroutines resolved external to said one compilation unit, said method comprising the steps of: copying each of said external called subroutines into said one compilation unit to form respective internal called subroutines; and compiling said calling subroutine using said external called subroutines and 21 said respective internal called subroutines, each of said compiled external called 22 subroutines having associated with it a respective version indicium for identifying 23 inter-compilation unit version conflicts during execution of said compiled calling 24 subroutine, wherein corresponding compiled external called subroutines entries are 25 executed in the case of inter-compilation unit version conflicts. 26 18. 27 The method of claim 17, wherein said version indicium comprises at least one 28 of a timestamp, a cyclic redundancy check (CRC) and a version control identifier.
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to produce in-line executable code.

The method of claim 17, wherein said internal called subroutines are compiled



	Express Mail No. EL064 943803		
1		20.	The method of claim 17, wherein at least one of said external called subroutines
2		is reso	lved a second of said plurality of compilation modules.
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4		21.	The method of claim 20, wherein said called subroutine within said second of
5		said pl	urality of compilation modules comprises a copy of a corresponding called
6		subrou	tine within a third of said plurality of compilation modules.
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81	$\int_{0}^{\infty}$	2/2.	A framework for loading class data structures prior to execution and for
9		resolvi	ng called Java® methods, said framework preferentially resolving said called
10		Java®	methods as cloned versions of Java® methods within a compilation unit
11		comm	on to a calling Java® method, said framework resolving respective called Java®
12		metho	ds outside said common compilation unit in the event of a version conflict
13		betwee	en said respective cloned and external Java® methods.
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15		23.	The framework of claim 22, wherein said version conflict is determined with
16		respec	t to at least one of a timestamp, a cyclic redundancy check (CRC) and a version
17		contro	l identifier.
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19		24.	The framework of claim 22, wherein said internal constant resolution entries
20		are co	mpiled to produce in-line executable code.
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22		25.	The framework of claim 22, an executing Java® method is provided
23		addres	sability to a runtime version of its entry in a container class method table.
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25		26.	The framework of claim 23 wherein if a constant pool entry provided by said
26		calling	g Java® method is to be resolved to a clone class, said framework performs the

steps of:

loading said clone class; and

classes for said constant pool entry.

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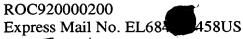
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modifying said loaded clone class to represent the respective clone and parent

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The framework of claim 26, wherein said step of modifying comprises the steps of overlaying a plurality of fields within said clone class to represent corresponding structures of said parent class.

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28. The framework of claim 26, wherein a determination of whether said constant pool entry provided by said calling Java® method is to be resolved to a clone class is made by performing the steps of:

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extracting a corresponding constant pool entry pointer; resolving the constant pool entry to its class; and

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determining if the constant pool entry has been resolved to a clone class.

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